

Type Size Remarks

Reconsideration of the application is urged in view of the amendments above and comments which follow.

I – Claim amendments

Originally filed claim 1 has been amended so as to clearly distinguish from the citation of US 5,738,636.

Claims 2 to 10, 12 and 15 to 18 have been amended to delete reference numerals.

Claims 11 and 14 have been further amended.

II – Support for amendments

Amended claim 1 as formulated now still relates to a portable device suitable for providing continuous passive motion of a limb, but it has been clarified that “the limb comprises a distal end and a proximal end, the distal end being connected to said proximal end with a first joint, the proximal end being connected to the torso with a second joint”, and that “the drive mechanism of the portable device is a drive mechanism for providing a settable continuous passive motion of said first joint and/or said second joint of said limb”.

A basis for this amended claim 1 can be found in the specification as originally filed, e.g. on page 9 lines 18 to 22 combined with common anatomical knowledge or e.g. from the description of the continuous passive motion (CPM) movements provided in the description on page 10 line 28 to page 12 line 21, indicating training movements that can be provided by the device for training of the first joint (illustrated by the elbow) and the second joint (illustrated by the shoulder).

Furthermore, an obvious error has been corrected by replacing “first control point of said distal end” by “first control point on said distal end” – see also page 4 lines 17-18.

Claim 11 has been amended to overcome the objections under remark 18, the amendments being based on page 15 line 34 to page 16 line 5, especially page 16 line 4 to 5, indicating that the brace or part thereof is adjusted in order to fit the length of the distal end of the limb of the user. Antecedent basis for the “brace for supporting said distal end” can be found in claim 1.

Although it is clear from the specification that also optionally a number of belts may be provided (e.g. page 16 lines 16 to 17), claim 14 has been amended to “comprises a belt”, in agreement with the drawings, as requested in remark 19 of the Office Action.

III – Novelty and obviousness issues

US 5,738,636 by Saringer et al. describes a device for providing continuous passive motion (CPM) to joints. Both a device for providing CPM for a wrist and a device for providing CPM to an ankle are described. The CPM device for the wrist comprises a brace for the forearm whereby the brace is fixed on a point of the forearm positioned at one side of the wrist, while a second point of the forearm, i.e. the hand, positioned at the other side of the wrist, is controlled by a providing a hand grip, as can also be clearly seen from Fig. 1a.

US 5,738,636 does not provide a device for providing CPM to a first joint situated between the distal end and the proximal end of the limb and/or a second joint situated between the proximal end of the limb and the torso by controlling the passive motion in a first control point and a second control point on the distal end of the limb, as claimed in amended claim 1. Therefore US 5,738,636 does not anticipate amended claim 1 of the present invention.

None of the other prior art references used in the Office Action, i.e. US 4,651,719 by Funk et al. and US 5,236,411 by Backman, nor other prior art references cited by the Examiner in the “Notice of References Cited” or cited in the background section of the patent application, describe a device for providing CPM to a limb, whereby the CPM provided to the first joint (connecting the distal end with the proximal end) and/or the

second joint (connecting the proximal end with the torso) is provided by controlling the passive motion in a first control point and a second control point on the distal end of the limb.

Consequently, amended claim 1 is not anticipated by the cited prior art. Furthermore, claims 2 to 18 are not anticipated by the cited prior art by virtue of their dependency on amended claim 1.

The amended claims furthermore are non-obvious over the cited prior art.

US 5,738,636 discloses a device for providing continuous passive motion to an ankle or a wrist. It does not disclose a device for providing CPM to a first joint (e.g. elbow) and/or a second joint (e.g. shoulder) of a limb, whereby the first joint is positioned between a distal end and a proximal end of the limb, and the second joint is positioned between the proximal end of the limb and the torso. The device of US 5,738,636 cannot be applied for providing CPM to the first joint (e.g. elbow) and/or the second joint (e.g. shoulder).

Furthermore US 5,738,636 does not hint in the direction of providing CPM to the first joint (e.g. elbow) and/or the second joint (e.g. shoulder), nor is it obvious how to extend the device of US 5,738,636 to allow providing CPM to the first joint (e.g. elbow) and/or the second joint (e.g. shoulder), by controlling a first control point and a second control point on the distal end of the limb.

Finally, none of the other cited prior art references hint in the direction of providing CPM to the first joint (e.g. elbow) and/or the second joint (e.g. shoulder) by controlling a first control point and a second control point on the distal end of the limb.

Nevertheless, the device for providing CPM to a limb provides significant advantages over the existing devices as it allows to provide CPM to a joint of the limb by controlling a first control point and a second control point on the distal end of the limb.

By actuating on the distal end of the limb, there is no need for providing a driven mechanical hinge over the joint. The latter avoids "pressure points" being present near the joint and thus allows to avoid stress at or near the joint, which is advantageous as stress or pressure may be painful and unfavourable for an injured joint of a limb.

Consequently, amended claim 1 of the present invention is non-obvious over the cited prior art. Claims 2 to 18 are non-obvious by virtue of their dependency of claim 1.

For the above reasons, the amended claims are considered allowable and consequently grant of the patent application is requested.

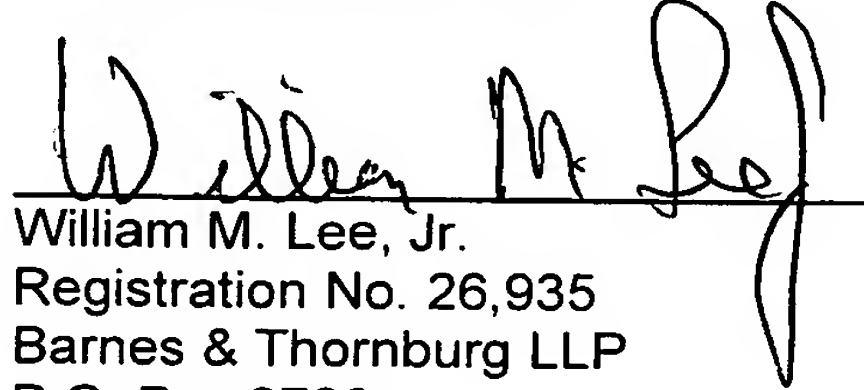
The applicants are also submitting an IDS indicating the cited prior art in the background section of the present application, as requested under remark 22 of the outstanding Office Action. The cited prior art is US 4,896,660; FR 2,727,007; FR 2,589,722; US 5,423,333; US 5,236,411; EP 0597623; EP 0525930; US 4,651,719, the underlined documents already being cited in the Notice of References Cited by the Examiner and are thus not listed.

In view of the foregoing, the Examiner's further and favorable reconsideration of the application is urged.

As this response is being submitted during the fourth month following the Examiner's Office Action, an appropriate Petition for Extension of Time is submitted herewith. The extension fee and the fee for the IDS are also provided herewith.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line.

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